REMARKS

Claims 1-24 stand rejected as being unpatentable over United States Patent No. 5,619,709 ("Caid") in light of United States Patent No. 5,774,888 ("Light"). With respect to Claims 1, 7, 13 and 19, the Examiner states that:

> Caid discloses a method of searching for a plurality of information objects comprising: Receiving a first query, (See Fig. 2A, column 6, lines 38-45, Caid); searching the database using a second query (see column 5, lines 26-36, Caid); finding a first identifier for a first information object that corresponds to the second query, wherein the first information object is part of the plurality of information objects (see column 5, lines 37-48, Caid).
>
> Caid does not disclose the step of automatically expanding a scope of a search from the first query to a second query. However, Light discloses automatically expanding the scope of search (see column 4, lines 60-63, Light) It would have been obvious to the ordinary skilled artisan at the time of the invention to add/modify the Caid system by expanding the scope of the search with the motivation of providing users with more options and higher number of responses which increases the possibility of receiving all the results needed.

In order to establish a prima facie case of obviousness, the Examiner must show: that the prior art references teach or suggest all of the claim limitations; that there is some suggestion or motivation in the references (or within the knowledge of one of ordinary skill in the art) to modify or combine the references; and that there is a reasonable expectation of success. M.P.E.P. 2142, 2143; In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). The Examiner must explain with reasonable specificity at least one rejection – otherwise, the Examiner has failed procedurally to establish a prima facie case of obviousness. M.P.E.P. 2142; Ex parte Blanc, 13 U.S.P.Q.2d 1383 (Bd. Pat Application. & Inter. 1989). When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the Examiner to explain why the combination of the teachings is proper. Ex parte Skinner, 2 U.S.P.Q.2d 1788, 1790 (Bd. Pat. App. & Inter. 1986).

The Applicant respectfully points out that the portions of Caid and Light cited by the Examiner do not render Claims 1, 7, or 13 obvious. Claim 1, as amended, recites expanding the scope of a search "based on a hierarchy of keywords associated with the plurality of information objects," Claim 7, as amended, recites expanding the scope of a search "based on

a keyword hierarchy," Claim 13 recites expanding the scope of the search "based on a hierarchy of keywords," and Claim 19, as amended, recites expanding the scope of a search "based on a hierarchy of keywords." Each of these Claims share the common feature that the scope of a search can be expanded based on a hierarchy of keywords. In other words, a first query can be expanded to a second query based on the relationships between various keywords in a hierarchy of keywords.

Columns 5 and 6 and FIGURE 2A of Caid, on the other hand, teach a system of developing a context vector. The system of Caid starts with the first document in a learning corpus and, for each document, starts with the first word stem and passes through the document, targeting each word stem, one by one. As each stem is targeted, the system applies a learning law to the target. *See* Col. 6, lines 26-52. As the Examiner concedes, there is no teaching or suggestion that the development of context vectors, as described in Caid, should employ automatically expanding the scope of a search.

For automatic expansion of a search the Examiner relies on Light, citing col. 4, lines 60-63. This portion of Light states that conventional methods "may employ additional steps . . . to expand the scope of terms within the document by adding synonymous terms, such as those found in a thesaurus." Light simply suggests that the scope of search can be expanded by automatically searching for predefined synonyms of a search word. There is no teaching or suggestion, however, that the expansion of the scope of the search should be based on a hierarchy of keywords or keyword hierarchy as recited in amended Claims 1, 7, 13 and 19.

The Examiner further rejected Claim 21 stating that:

> The combination of Caid and Light disclose a data processing system readable medium wherein: the first keyword, the second keyword, and the a third keyword are represented by a first node, a second node and a third node, respectively, within a keyword hierarchy (see Fig. 2A, Caid) . . . expanding is performed . . . such that the second query does not include the third keyword (see Fig. 2F, Caid).

Claim 21 has been amended to recite that expanding is performed based on the keyword hierarchy. FIGURES 2A and 2C of Caid, conversely, do not teach or suggest a keyword hierarchy. FIGURES 2A and 2F instead show a "window of definition" for words in a

training document. More specifically, FIGURE 2A shows a window of a fixed number of word stems appearing on either side of a particular word stem in a document. In FIGURE 2A, the window is defined to include three neighbors to the left and right of the particular word stem "Federal". These represent words in the document that are used to determine which context vectors will influence the context vector of the target word "Federal". In the example of FIGURE 2A, the context vectors of "antitrust", "law" and "simple" will influence the context vector of "Federal." FIGURES 2B and 2C illustrate the window when the system of Caid proceeds to the next words in the document. In the case of FIGURE 2C, the target word is "law" so the window includes "Federal", "antitrust", "law", "simple", "commercial", "Sherman Act" and "contract". Thus, FIGURES 2A and 2C of Caid do not represent a hierarchy of keywords, but simply represent words in a document that will influence the context vector of a particular target. In other words, FIGURES 2A and 2C show which neighbor words in a document will influence the context vector for a target word. There is no teaching or suggestion in FIGURE 2A or FIGURE 2F of Caid to use a hierarchy of keywords or expand the scope of a search based on the hierarchy of keywords as recited in amended Claim 21.

Applicants, therefore, submit that there is no teaching or suggestion in Caid or Light to expand the scope of a query based on an a hierarchy of keywords or keyword hierarchy as recited in independent Claims 1, 7, 13, 19 and 21 and request that the Examiner withdraw the rejections of these Claims. Applicants further request that the Examiner withdraw the rejections to Claims 2-6, 8-12, 14-18 and 22-26 as depending variously from Claims 1, 7, 13, 19 and 21.

CONCLUSION

Applicant has now made an earnest attempt to place this case in condition for allowance. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of claims 1-26. The Examiner is invited to telephone the undersigned at the number listed below for prompt action in the event any issues remain.

The Director of the U.S. Patent and Trademark Office is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 50-0456 of Gray Cary Ware & Freidenrich, LLP.

Respectfully submitted,

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